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ABSTRACT

This paper discusses the college freshman year experience from the student perspective, focusing not on what college will do for them, but on what it will do to them. Faced with the staggering array of course offerings and experiences presented by the modern college, freshmen need more help in making choices and decisions. The paper reviews the conclusions of various books and articles on the impact of college on students, including Chickering and Gamson's (1987) Seven Principles for Good Practice for Undergraduate Education, which include: (1) encouragement of student-faculty contact; (2) encouragement of cooperation among students; (3) encouragement of active learning; (4) provision of prompt feedback; (5) emphasis on time on task; (6) communication of high expectations; and (7) respect for diverse talents and ways of learning. The paper also reviews the organizational culture principles articulated by the Education Commission of the States (1995), which expresses that quality education begins with an organizational culture that values high expectations, cultivates respect for diverse talents and learning styles, and emphasizes the early years of study. (Contains 15 references.) (MDM)

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THE FRESHMAN YEAR: WORKING OUT THE PUZZLE OF A COLLEGE EDUCATION*

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THE FRESHMAN YEAR: WORKING OUT THE PUZZLE OF A COLLEGE EDUCATION*

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I am delighted to open this 16th annual conference on the freshman year with its provocative and action-oriented theme -- First Year Connections: Making the Collegiate Puzzle Fit." College is a puzzle to most freshmen, and helping them put together a college education out of all the pieces that we put before them during the college years, is no simple task. The dictionary says that to puzzle is to be perplexed or confused, but it also says that to puzzle over something is to "exercise one's mind, as over the solution of a problem." The first definition rings true to anyone who has watched college freshmen struggle with the perplexity and confusion of their first year. The second definition -- the one with the wonderfully appropriate notion that to puzzle is to "exercise one's mind. . ." has high appeal to college faculty and administrators, but it is probably not the definition that keeps freshmen awake nights.

Most students enter college with the notion that college will do something <u>for</u> them -- mostly, they hope, prepare them for a high-paying and satisfying career. But few students enter college with much idea about what college will do <u>to</u> them. I believe that whatever else the freshman year experience accomplishes, it should make students more aware of how they are using these precious years and what impact they want their college experience to have on them.

I want to look first at this puzzle of a college education from the perspective of the freshman. Most jig saw puzzle wonks would not even attempt to put a puzzle together without the picture on the box, nor would a puzzle manufacturer attempt to sell a puzzle without giving some indication of what the picture will look like when completed. Yet

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we attempt to sell a college education in a black box, with little or no indication of what lies inside or what it will or should look like when completed. Admittedly, recruitment offices are far ahead of the rest of us; they have given extensive attention to marketing and selling, and they know the value of the picture on the box. Most now issue colorful and attractive view books, purporting to show potential freshman what college looks like.

This is what college looks like to a typical student whom we shall call Isabel M. Eager. She goes by her initials -- I.M. Eager. She is applying to college this year and has collected a huge array of view books. College looks like this to her: The grounds are lovely with traditional college buildings, a beautiful green lawn with students strolling down broad walkways toward the library, books in hand, smiling and talking easily with one another. Other students sit studying by the lake -- or in desperate situations, a fountain -- in the middle of the bucolic campus. And students are seen at their state-of-the art computers with a kindly white-haired professor giving them very personal attention. And there are plenty of social activities pictured to suggest that college is a barrel of fun as well as serious preparation for a good job.

But a view book gives the picture of what the college looks like -- at least to its enthusiastic salespeople. It does not tell I.M Eager what she will look like when she has completed the experience of a college education. The question that your conference theme promises to address is, How can we help entering freshmen make the connections with the intellectual, moral, and other resources of the college to put together the varied experiences that make up a college education?

We work hard to provide students with the many pieces of a college education, but then we leave it up to them to put the puzzle together. As she arrives on campus, I.M Eager is faced with something comparable to a 1000 piece jig-saw puzzle dumped on the table before her; she is overwhelmed by the task of getting it all together, especially when she has no idea what the assembled puzzle should look like. She hasn't really thought

about what a college education is or how she will look when she gets all the pieces together.

The greatest help we could give freshmen would be to provide them with the box top picture of the assembled puzzle. The problem is, of course, that not everyone has the same beautiful picture of a college education. But even more serious is the fact that the makers of the puzzle haven't given very much thought to how the pieces fit together.

Just think how frustrated we would be if our partner in putting together a puzzle just kept dumping more pieces on the table without ever putting anything together or helping us to see connections or working toward assembling the total picture. Yet, we often behave in just that way. We provide students with a tote bag into which each administrative and academic department dumps their own pieces of the college puzzle, never looking to see what is already in the bag or whether the pieces fit together in any way. It is as though the puzzle bag were left open in every college office, and as faculty members and administrators came in for their mail, they dropped a few pieces of their own puzzle into the bag. Once in awhile, the department head empties the bag on the table at a faculty meeting and implores faculty to work on fitting the pieces together, but it soon becomes apparent that it takes too much time to get agreement on the departmental picture and even more time to reshape some of the pieces to make a better fit with other departments, and the project is abandoned, leaving it to students to sort out the puzzle for themselves.

One might argue, realistically I think, that in the modern college, there are so many offerings and such a staggering array of experiences that, in any case, each student is going to have to sort out the message for himself or herself. But we can be more helpful than we usually are. We have not only our own experience as learners to guide us, but we also have literally thousands of research studies to inform us about how the college experience changes students. Those of us who have waded through Pascarella and Terenzini's 900-page treatise on How College Affects Students (1991) have a pretty

good idea of what the average college does to and for the average student. And for those of us with a more sound-bite attention span, there are a growing number of neatly phrased and bulleted lists about what research says about the impact of college on students.

I have on my desk right now a collection of such lists. Perhaps the best known and certainly the most widely-distributed list is the Seven Principles for Good Practice for Undergraduate Education (Chickering & Gamson, 1987) which represents a distillation of 50 years of research on college students and is intended as a set of guidelines for improving teaching and learning. No doubt many of you are familiar with the seven principles which briefly stated --as they usually are -- remind us that "Good practice (1) encourages student-faculty contact, (2) encourages cooperation among students, (3) encourages active learning, (4) gives prompt feedback, (5) emphasizes time on task, (6) communicates high expectations, and (7) respects diverse talents and ways of learning. Just prior to the Seven Good Practices, there were the "three critical conditions for excellence" identified in the report entitled Involvement in Learning (1984). The group of educational researchers who put together that report assured us that, " the quality of undergraduate education could be significantly improved if America's colleges and universities would apply existing knowledge about three critical conditions of excellence -- (l) student involvement, (2) high expectations, and (3) frequent assessment and feedback" (p. 17). Then there are the Five Student Learning Imperatives, describing what student affairs should do to enhance the college experience (American College Personnel Association, 1993), and the Five Myths, that are not to be believed, condensed from Pascarella and Terenzini's compendium of several thousand research studies (Pascarella & Terenzini, 1991), and a few others that are less well known.

Our penchant for condensing voluminous and sometimes qualified research findings to their smallest possible sound bites is shared by foreign countries as well. The Oxford Centre in England, for example, sets forth "nine strategies for improving student learning."(Oxford Centre for Staff Development, 1992) . Their purpose is to make

college teachers aware of what research says about how to encourage "deep learning" over "surface" learning -- that is to say how to encourage students to actively understand rather than passively reproduce (Ramsden, 1992, p. 44) (Why these lists of research conclusions seem to come in odd rather than even numbers, I can't explain, but we have 3,5,7, and 9 good practices, but to date, at least, I have not located lists of 2,4.6, or 8 good practices.) There is, as you might expect, a huge overlap in the lists, and I am happy to report that they are completely consistent. They are not sprinkled though with the usual reservations and qualifications that turn most practitioners away from hoping to get practical information from reading research reports. I suspect that is due, in large measure, to the fact that these research conclusions are really not much more than common sense, raised to academic respectability through research verification. For instance, one of the principles that appears on virtually all of the lists is the research finding that the more time students spend studying the more they learn. That conclusion has been verified by research scholars often enough to claim its own nomenclature. It is known as "time on task." While it does not seem at all surprising that "time on task" is related to learning, it is worth noting that much of what we do in education is not directed to the tasks that we want students to accomplish. Nor is the time of students sufficiently respected -- by them or by us -- to make sure that they are using their time wisely.

We probably have all the information that we can productively use on what various aggregations of students become as a result of their college experience. Neil Postman (1997) notes in the excerpt of an article that appeared recently on the internet, that we are so flooded with scattered bits of information that our society is becoming bereft of coherence and meaning. Modern society, with its marvels of information transfer, he says, lacks guidance and social purpose. He recommends more transcendent narratives. It is true, I think, that we have more bit-by-bit data about what happens to students in college than cohesive ideas about what <u>should</u> happen to them. Maybe students need to work on assembling their own narratives. One of the things that we most

certainly should do in the freshman year is to help students begin to assemble the frame of the college puzzle. That is the way most puzzle freaks start anyway. They first build the outside borders, constituting the frame for the puzzle to give shape and dimension to the project, and then they fill in the picture by connecting each piece to the frame and to each other.

One of the most powerful frameworks for picturing a person in the process of becoming educated comes from the preamble of the Student Learning Imperatives. It states that "The key to enhancing learning and personal development is not simply for faculty to teach more and better, but also to create conditions that motivate and inspire students to devote time and energy to educationally-purposeful activities, both in and outside the classroom" (American College Personnel Association, 1993) But how does the perplexed freshman -- or the sophisticated sophomore for that matter -- know what use of their time is educationally purposeful? Actually, we know that a conversation in the dormitory may be more educationally- productive than the lecture in Economics 101.

Let us return to the lists of research conclusions to see if they contain suggestions for where and how students might most profitably spend their time. For this purpose, I am going to select just a few of the most relevant principles from the research conclusions that we have assembled. Principle One of the Seven Principles for Good Practice states that "Good practice encourages student-faculty contact," and they go on to elaborate the principle by adding that, "knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans." (Chickering & Gamson, 1987) This finding appears on almost all of the lists in one form or another, and it appears to be duly noted and implemented on campuses today with varying degrees of enthusiasm from senior faculty members. Thus, some of the research seems to be finding its way into practice, although it seems to me that the research conclusions need a little more meat on their bare bones. Using lists as reminders of the research findings seems to me useful. Using them in place of deeper

understandings of student development is more akin to surface learning than to the deep learning that we try to encourage in students.

A study that I admire pursued in some depth knowledge about how students were putting together the puzzles of their education. It was done more than 30 years ago at Princeton, admittedly at the time, an elite institution for white males. That could be considered irrelevant to today's rich diversity of students, but some goals of a college education are timeless. John Witherspoon, an early president of Princeton, said that, "The end of a liberal education is to set all human powers in motion" Is that goal irrelevant or too ambitious for us today? Can we hope to even come close to the ideal of setting "all human powers in motion?" Perhaps not, but the sad fact is that we have lost this picture. It lies buried beneath the rubble of a badly fragmented curriculum, rampant vocationalism, and institutional priorities for "productivity."

Roy Heath was a counselor at Princeton, and his book, entitled The Reasonable Adventurer (Heath, 1964) is a report of a one-man project -- no fancy technology, no team of assessment experts, no complex methodologies, no statistical analyses. What Ansel Adams was to photography, Roy Heath was to the assessment of student learning. Both were as much artists as scientists; both had unusual sensitivity and were able to capture a scene with exceptional clarity. Both had patience and the ability to frame an inspiring picture. And both are probably testimony to the research conclusion that students privileged to spend time with such people are quite likely to be spending their time in educationally-productive ways.

Roy Heath had the luxury of spending full-time in conversation with a selected sample of 36 students. He asked them to come in once a week to reflect on their learning as it had taken place in classes, dorms and conversations during that week. What is interesting about his study is that students in the experiment, who seemed to do nothing much more than reflect on their learning to a good listener who took a personal interest in their college experience, did better in almost every respect than students who did not have

this weekly connection. They won an impressive array of academic and non-academic honors. They seemed to benefit from what researchers sometimes dismiss as "the Hawthorne effect." The Hawthorne effect, you will remember, presumably contaminates research because it shows that paying unusual attention to people in the experiment causes them to perform better than they would under ordinary conditions.

But Roy Heath also identified one group of students that came close to what I think of as the picture on the top of the college education puzzle box. These students had put together the pieces of their Princeton puzzle to result in a person that Heath came to call the "Reasonable Adventurer." Reasonable Adventurers, Heath observed, moved markedly during their college years in the direction of openness and spontaneity combined with good judgment. They were willing to take chances and to open themselves up to new experiences, but they were not desperately driven to take chances or to avoid them, as were the Plungers and the Non-committers, two other types of students identified in the study. Heath provides this portrait of the Reasonable Adventurer: It is a portrait that I would put on my box top, and I think it is as relevant today as it was when it was written -- with the notable exception that the language, based as it is, on Princeton males, is offensive to our newly sensitive ears, tuned to a more inclusive picture of college students. Please include women as Reasonable Adventurers as you listen to Heath's description of students who had apparently used their time in educationally-productive ways:

> I have tried to picture the Reasonable Adventurer as a fully functioning human being, one who is open to new experiences in a changing world. He is seeking the fulfillment of his individuality from a base of world relatedness. While this level of functioning is best calculated to bring deep satisfaction it would be wrong to assume that the Reasonable Adventurer exists in a state of undiluted happiness. His happiness is geared to his sympathies and his compassion is broad. His deep awareness that he lives in a troubled world from which he cannot escape is certainly conducive to sobriety and, at times, anguish. [The Reasonable Adventurer] is no superman. In fact, he may be no more than average in mental endowment. What he has he uses well. For this reason he is more fortunate than others. He knows what it means to be alive." (p. 35-36).

In the hindsight of our current research, it is hard to say whether the students who were required to assemble each week of college experience into some kind of coherent picture, showed exceptional achievement because a respected member of the college community listened and paid attention to what they had to say, or because they took an hour a week to reflect on their experiences and to articulate what that week of education had meant to them.

Since Heath's day, research has demonstrated convincingly that students who get involved with faculty and others outside of class invest more time and effort in their study, show greater growth and achievement, and are better satisfied with their educational experiences than students who are not involved with others in the learning community (Study Group on the Conditions of Excellence . . . 1984). Thus, the superior achievement of Heath's experimental group could be due largely to their regular involvement with a representative of the college who listened and who cared.

We also know, from research on cognition, however, that students who **reflect** on their learning are better learners than those who do not. Some students regard learning as something "out there," -- subject matter to be added to the inert piles of information already stored in their heads. Others see learning as a **process** that interacts with what the student already knows to transform their understanding. These students are aware of themselves as learners; they actively watch themselves in the process of getting an education. Thus, they are able to exert more control over their learning. They develop learning strategies that constantly monitor the effectiveness of their learning (Weinstein & Meyer, 1991)

This description of learning as a **process,** to be planned and monitored by the learner, involves "metacognition," a term used by cognitive psychologists to describe the so-called "executive function" of the mind in controlling and directing learning. I believe that we need some comparable concept to aid us in thinking about the student's

control over the quality of the total college learning experience. How can students continually monitor the effectiveness of their college experience while it is in process? How can they watch themselves in the process of getting a college education? How can they develop effective strategies to exert more control over the quality of their learning? In brief, How can they spend their energy and their time in educationally-purposeful activities?

Colleges and universities are engaged these days in assessing their own effectiveness as educational institutions. We purport to want to know how much and how well students are learning as a measure of our own success as educators. Should not students be equally concerned about learning how to assess their progress as learners?

By self-assessing their progress as learners, I mean something a bit different from assessing their competence and understanding of subject matter. There isn't much doubt that college teachers could give better and more frequent feedback to students than they currently give, and feedback on course content and skills is critically important to learning.

But I am suggesting that we should involve students in learning to self-assess their own progress as lifelong learners. The learning that students do in college is just the start of a lifetime that will require a substantial investment in learning, and students are going to have to assume major responsibility for the direction and quality of their own learning. It is already the case that for most of a student's learning life, we -- the formal educational establishment -- are not going to be directing where, when, or what they learn. Knowledge is changing so fast that what students know when they graduate from college is not nearly as important as what they are capable of learning. The half life of knowledge in medicine now -- meaning the time it takes for half of the knowledge to become obsolete -- is reputed to be about five years. That means that during the time that students are in medical school, half of the knowledge of their profession is being replaced by new knowledge. Information is more plentiful, more easily available, and more

rapidly distributed than ever before in the history of the world. We are quite literally awash in information. Between 6,000 and 7,000 scientific articles are written each day. Scientists complain that they are so overwhelmed with data and information that it takes less time to do an experiment than to find out if it has been done. (Naisbitt, 1982 p. 24) John Naisbitt claims that for professional and clerical workers -- and that includes the majority of all workers today -- the creation, processing, and distribution of information is the job (p. 15).

The most important thing any student can learn in college today is how to become a lifelong learner. That means mastery of the basic tools for learning -- reading, writing, numeracy, critical thinking, problem solving, of course, but it also means developing the attitudes and values of the lifelong learner -- cultivating an appreciation of learning and acquiring the habits of a self-directed learner. In short, students must become effective and efficient learners if they are to make their way in the 21st century.

But I am also talking about making students aware of the role that learning plays in their development as persons. If students could visualize the box top picture of the educated person that they would like to become, would they spend their time in educationally-purposeful pursuits that furthered their goals? I don't know. That's not the kind of research that we do these days. But suppose students were asked early on in their college years to write a thoughtful essay describing their vision of what they would like to look like as a graduating senior, to discuss their visions with classmates, and perhaps to reflect on their freshman essay and make changes each year. I'm sure that some of you already do that, but certainly engaging students in some active thought about what these college years could and should accomplish would be using their time in educationally productive ways.

As some of you know, I have been working for the past decade on something that I call Classroom Assessment and Classroom Research (Cross and Angelo, 1988; Angelo and Cross, 1993; Cross and Steadman, 1996). When I first suggested that classroom

teachers should be assessing the learning that takes place day-by-day ins their own classrooms, I was primarily concerned about making teachers more sensitive to the process of learning. Classroom Assessment and Classroom Research were ways to actively involve teachers in learning about the impact of their teaching on students' learning. But our experience in working with college teachers acorss the disciplines has taught us that Classroom Assessment is at least as important to students as it is to teachers.

Included in every list of research conclusions is the principle that effective learning requires prompt and useful feedback. The implication is that teachers need to assess the work of students frequently and let them know how they are doing. And no one can argue with that. But we are finding that the feedback that students can give themselves is even more important.

Again, the metaphor of the puzzle seems useful. It is nice and helpful if the master puzzle solver comes along frequently to help us over a difficult hurdle or to offer a few words of encouragement that we are on the right track. Such feedback is especially important when the box top picture is missing. But the real satisfaction and encouragement comes from feedback that is self-generating. There is no feedback quite as effective as knowing deep down that we have it right -- that we have put together the pieces that fit -- or in the language of learning, that we know we understand. All learning cannot come with built-in feedback mechanisms, of course, but to the extent that there are clear goals and that feedback on accomplishing those goals is available to students, learning is self-motivating and self-rewarding. It is important that freshmen begin early on to self-assess their own progress as learners. Engaging with teachers and fellow students in classroom projects of Classroom Assessment and Classroom Research will enhance the principle that good practice encourages prompt and useful feedback.

What else might we learn from the handy lists of research conclusions? The principle of good practice that we hear more about than any other today is that good

learners are active learners. No one ever learned how to work puzzles by listening to a description of the process. And while utilizing the new technology to produce a full color video showing closeups of the master puzzle king putting together the puzzle might be somewhat more illuminating than a chalk-board lecture, ultimately the only way to learn is to take the pieces in hand and put them together yourself.

Ironically, the puzzle metaphor that is most appropriate for understanding active learning is the apparently low-activity game of chess, which fits the second dictionary definition of puzzle -- " to exercise one's mind in the solution of a problem." Too many people confuse active learning with physical activity. Teachers often tell me that they observe the good practice of active learning by breaking their class into small groups so that more students have a chance to participate. Fine, as far as it goes. But it is not safe to conclude that if students are talking they are learning. It is just as risky to conclude that students are learning when other students are talking. What we mean by active learning is that the mind is actively engaged. A chess player may sit for hours without talking or moving, but his or her mind is actively engaged in finding a solution to the problem.

Although lecturing is discouraged these days, that is because it is usually done so badly, resulting in something less than an educationally-purposeful activity. Charles Gragg, the inspired teacher at the Harvard Business School 50 years ago put active learning in perspective when he wrote these words, "No one can learn in any basic sense from another except by subjecting what that other has to offer to a process of creative thinking; that is unless the learner is actively and imaginatively receptive, he will emerge from the experience with nothing more than a catalog of facts and other people's notions" (Gragg, 1940)

The major message from modern learning theory is that learning is not so much an additive process, with new information simply piling up on top of existing knowledge, as it is an active, dynamic process in which connections are changed and the cognitive

structure reformatted. Learning consists of making **connections** between new knowledge and what we already know. If educators conceived of the mind as an active dynamic organism rather than a storehouse of information, we would teach quite differently. Socrates, perhaps the earliest known proponent of active learning observed 2000 years ago that education is the kindling of a flame, not the filling of a vessel. Once the spark is ignited, learning is self-motivating. The motivating aspect comes both from the activity of searching for connections and from the feedback that assures that in locking each piece into place, one is beginning to understand.

Every puzzle freak knows the special delight of finding a piece that links two large sections together -- or the particular satisfaction of seeing an especially interesting piece and wondering where it fits -- perhaps laying that piece aside for awhile and then all of a sudden seeing where it goes, and wondering why that connection wasn't seen before. Or the challenge of turning an interesting piece over and over, knowing that it fits, but having to look at it from different perspectives to see how it fits into the assembled puzzle. Ideas, concepts, and facts are all pieces of the learning puzzle. Separately, they are just pieces of information; linked together they have a chance of "setting all human powers in motion."

Finally, since many of you work in and help to determine the institutional climate, I want to say a few words about the cluster of principles of good practice that appear under the heading of organizational culture. The Education Commission of the States, under the leadership of Governor Roy Rommer of Colorado, took on the task of posing the legislative questions about what quality should mean in higher education. In organizing their concerns, they listed three commonly cited principles for quality learning under the heading of organizational culture. They concluded that quality begins with an organizational culture that 1) values high expectations, 2) cultivates respect for diverse talents and learning styles, and 3) emphasizes the early years of study. (Education Commission of the States, 1995)

I scarcely need remind this audience of how important the early years of college are. You are already involved in orienting students to the college environment and expectations. Unfortunately, it is true that most colleges and universities allocate the bulk of their resources to upper-division work, which is just the reverse of what research says they should be doing for the implementation of quality. The Freshman Year Project, with its growing competence and acceptance by college and university faculty members, deserves the praise that it is getting. All of us interested in improving the college experience for students are in your debt.

The second principle, considered by The Education Commission of the States to be an important element in institutional climate -- valuing high expectations -- is more complex than it first appears. It means more than you get about what you expect. There is a learning principle involved in setting expectations. Setting them too low results in boredom and a lack of respect; setting them too high results in frustration and defeat. Expectations should be set realistically high. The reason that the concept -- and the name -- of the "Reasonable Adventurer" appeals to me is because learning is a reasonable adventure. It is not risk free, but neither is it a foolhardy attempt to try do something that you have no realistic hope of accomplishing. Learning something new involves risk because we are attempting something that we are not sure we can do. If we know we can do it, it might be practice, but it is not learning. The high that comes from a successful reasonably risky adventure is self-motivating. The low that comes from failure is self-defeating. The expectations, so painstakingly and idealistically worded in most mission statements, are revealed in reality everyday in classrooms, dormitories, dining halls, clubs, sports, and generally in the overall attitudes and values of the people who make up the learning community. Setting realistically high expectations has to be institutionalized in the organizational culture.

Finally, the third good practice associated with institutional climates -- recognizing diverse talents and learning styles -- has received a lot of attention in

educational circles. I trust that there is no one in this room today who is unaware of the nationwide drive to sensitize people to the strength and vitality that can be derived from diversity. Indeed the heart, and probably even the soul, of academic life lies in the consistent ability to benefit from different perspectives and opinions. One seasoned academic when asked to define his work, replied with some pride that "A professor is a person who thinks otherwise." An educated person is one who questions, who thinks, who is open to new ideas and who regards all education as a reasonable adventure into the unknown.

Unfortunately, I think, the word diversity has become a code word for affirmative action. As important as the procedures for achieving diversity may be, that is a limited and limiting perception. Diversity, writ large, includes different backgrounds, perceptions, experiences, learning styles, and attitudes. Freshmen need more than the rhetoric of diversity, more than the goal of multiculturalism. They need to personally experience the value of diversity to their own learning. Interacting with students and teachers who "think otherwise" should be one of the prized experiences of the college years.

Working jig saw puzzles is a holiday activity in my family, and my sister and I work especially well together because we have very different approaches to making the connections. She goes by shape; I go by color. When she says just look for the piece with the little rabbit ears on it, I have no idea what she is talking about -- is it dark blue or blue with a white stripe? I ask. Most campuses today recognize the value of diversity and are working hard to introduce students to greater diversity of talents and perspectives than they have ever known before. Respect for diversity is good practice; it is also productive learning.

Working on the puzzle of a college education can be fun, and it can also be frustrating. As educators, we know some things that will make the puzzle more fun and more productive. I think we are doing reasonably well in implementing the piece by

piece bits of information that research has provided over the past several decades. We are not doing very well yet at getting the boxtop picture in focus. I hope the next few days of conversations with your colleagues will provide the pieces and the connections for enriching your own learning about improving the freshman experience.

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